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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>			<i>Complete if Known</i>		
			Application Number	10/693,532	
			Filing Date	2003-10-23	
			First Named Inventor	WALTON; J. Rodney. et al.	
			Art Unit	2467	
			Examiner Name	TSEGAYE, SABA	
Sheet	1	of	14	Attorney Docket No: 020573	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
/ST/	001	US6847828	01-25-2005	MIYOSHI, et al.	
	002	US5241544	08-31-1993	JASPER; Steven C. et al.	
	003	US5295159	03-15-1994	KERPEZ; Kenneth J.	
	004	US5471647	11-28-1995	GERLACH; Derek. et al.	
	005	US5606729	02-25-1997	D'AMICO; Thomas V. et al.	
	006	US5638369	06-10-1997	AYERST; Douglas I. et al.	
	007	US5867478	02-02-1999	BAUM; Kevin Lynn. et al.	
	008	US5886988	03-23-1999	YUN; Louis C. et al.	
	009	US6084915	07-04-2000	WILLIAMS; Richard G. C.	
	010	US6131016	10-10-2000	GREENSTEIN; et al.	
	011	US6141388	10-31-2000	SERVAIS; et al.	
	012	US6141567	10-31-2000	YOUSSEFMIR; et al.	
	013	US6144711	11-07-2000	RALEIGH; Gregory G. et al.	
	014	US6167031	12-26-2000	OLOFSSON; et al.	
	015	US6178196	01-23-2001	NAGUIB; Ayman F. et al.	
	016	US6232918	05-15-2001	WAX; Mati. et al.	
	017	US6266528	07-24-2001	FARZANEH; Farhad.	
	018	US6278726	08-21-2001	MESECHER; et al.	
	019	US6292917	09-18-2001	SINHA; Deepen. et al.	
	020	US6298035	10-02-2001	HEISKALA; Juha.	
/ST/	021	US6298092	10-02-2001	HEATH; Jr. Robert W. et al.	

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Sheet	2	of	14	Attorney Docket No: 020573	

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/ST/	022	US6308080	10-23-2001	BURT; Donald G. et al.	
	023	US6314289	11-06-2001	EBERLEIN; Ernst. et al.	
	024	US6330462	12-11-2001	CHEN; Tao.	
	025	US6339399	01-15-2002	ANDERSSON; Soren. et al.	
	026	US6346910	02-12-2002	ITO; Tei.	
	027	US6348036	02-19-2002	LOONEY; et al.	
	028	US6377812	04-23-2002	RASHID-FARROKHI; et al.	
	029	US6385264	05-07-2002	TERASAWA; et al.	
	030	US6452981	09-17-2002	RALEIGH; Gregory G. et al.	
	031	US6473467	10-29-2002	WALLACE; Mark. et al.	
	032	US6532255	03-11-2003	GUNZELMANN; et al.	
	033	US6532562	03-11-2003	CHOU; Philip A. et al.	
	034	US6574211	06-03-2003	PADOVANI; Roberto. et al.	
	035	US6574271	06-03-2003	MESECHER; et al.	
	036	US6594473	07-15-2003	DABAK; Anand G. et al.	
	037	US6594798	07-15-2003	CHOU; Philip A. et al.	
	038	US6608874	08-19-2003	BEIDAS; Bassel F. et al.	
	039	US6611231	08-26-2003	CRILLY; Jr. William J. et al.	
	040	US6615024	09-02-2003	BOROS; Tibor. et al.	
	041	US6654590	11-25-2003	BOROS; Tibor. et al.	
/ST/	042	US6654613	11-25-2003	MAENG; Seung-Joo. et al.	

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Sheet	3	of	14	Attorney Docket No: 020573	

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/ST/	043	US6668161	12-23-2003	BOROS; Tibor. et al.	
	044	US6683916	01-27-2004	SARTORI; et al.	
	045	US6690660	02-10-2004	KIM; Younglok. et al.	
	046	US6693992	02-17-2004	JONES; William W. et al.	
	047	US6738020	05-18-2004	LINDSKOG; Erik D. et al.	
	048	US6751187	06-15-2004	WALTON; Jay R. et al.	
	049	US6751444	06-15-2004	MEIYAPPAN; Palaniappan.	
	050	US6751480	06-15-2004	KOGIANTIS; et al.	
	051	US6760313	07-06-2004	SINDHUSHAYANA; et al.	
	052	US6760388	07-06-2004	KETCHUM; John W. et al.	
	053	US6771706	08-03-2004	LING; Fuyun. et al.	
	054	US6785341	08-31-2004	WALTON; Jay R. et al.	
	055	US6788948	09-07-2004	LINDSKOG; Erik D. et al.	
	056	US6795424	09-21-2004	KAPOOR; Samir. et al.	
	057	US6801790	10-05-2004	RUDRAPATNA; Ashok N.	
	058	US6802035	10-05-2004	CATREUX; Severine. et al.	
	059	US6850498	02-01-2005	HEATH; Robert W. et al.	
	060	US6859503	02-22-2005	PAUTLER; Joseph J. et al.	
	061	US6862271	03-01-2005	MEDVEDEV; Irina. et al.	
	062	US6873651	03-29-2005	TESFAI; Yohannes. et al.	
/ST/	063	US6879578	04-12-2005	PAN; Jung-Lin. et al.	

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Sheet	4	of	14	Attorney Docket No: 020573	

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/ST/	064	US6885708	04-26-2005	THOMAS; Timothy A. et al.	
	065	US6888809	05-03-2005	FOSCHINI; et al.	
	066	US6888899	05-03-2005	RALEIGH; Gregory G. et al.	
	067	US6920192	07-19-2005	LAROLA; Rajiv. et al.	
	068	US6937592	08-30-2005	HEATH; Jr. Robert W. et al.	
	069	US6950632	09-27-2005	YUN; Yu-Suk. et al.	
	070	US6956906	10-18-2005	TAGER; Wolfgang. et al.	
	071	US6963742	11-08-2005	BOROS; Tibor. et al.	
	072	US6965762	11-15-2005	SUGAR; Gary L. et al.	
	073	US6985434	01-10-2006	WU; Shiquan. et al.	
	074	US6996380	02-07-2006	DENT; Paul Wilkinson.	
	075	US7020110	03-28-2006	WALTON; Jay Rod. et al.	
	076	US7020482	03-28-2006	MEDVEDEV; Irina. et al.	
	077	US7020490	03-28-2006	KHATRI; Bhavin S.	
	078	US7031671	04-18-2006	MOTTIER; David.	
	079	US7035359	04-25-2006	MOLNAR; Karl James.	
	080	US7062294	06-13-2006	ROGARD; Roger. et al.	
	081	US7072381	07-04-2006	ATARASHI; Hiroyuki. et al.	
	082	US7072410	07-04-2006	MONSEN; Peter.	
	083	US7072413	07-04-2006	WALTON; Jay R. et al.	
/ST/	084	US7088671	08-08-2006	MONSEN; Peter.	

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/ST/	085	US7099377	08-29-2006	BERENS; Friedbert. et al.	
	086	US7103325	09-05-2006	JIA; Ming. et al.	
	087	US7110378	09-19-2006	ONGGOSANUSI; Eko Nugroho. et al.	
	088	US7110463	09-19-2006	WALLACE; Mark S. et al.	
	089	US7113499	09-26-2006	NAFIE; Mohammed. et al.	
	090	US7116652	10-03-2006	LOZANO; Angel.	
	091	US7120199	10-10-2006	THIELECKE; Jo. et al.	
	092	US7133459	11-07-2006	ONGGOSANUSI; Eko N. et al.	
	093	US7149239	12-12-2006	HUDSON; John E.	
	094	US7149254	12-12-2006	SAMPATH; Hemanth.	
	095	US7155171	12-26-2006	EBERT; Paul Michael. et al.	
	096	US7158563	01-02-2007	GINIS; Georgios. et al.	
	097	US7187646	03-06-2007	SCHRAMM; Peter.	
	098	US7197084	03-27-2007	KETCHUM; John W. et al.	
	099	US7200404	04-03-2007	PANASIK; Carl M. et al.	
	100	US7206354	04-17-2007	WALLACE; Mark S. et al.	
	101	US7218684	05-15-2007	BOLOURCHI; Nader. et al.	
	102	US7224704	05-29-2007	LU; Xiaolin. et al.	
	103	US7231184	06-12-2007	EILTS; Henry S. et al.	
/ST/	104	US7233625	06-19-2007	MA; Jianglei. et al.	

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	106	US7242727	07-10-2007	LIU; Jung-Tao. et al.	
	107	US7248638	07-24-2007	BANISTER; Brian C.	
	108	US7248841	07-24-2007	AGEE; Brian G. et al.	
	109	US7254171	08-07-2007	HUDSON; John E.	
	110	US7260153	08-21-2007	NISSANI	
	111	US7260366	08-21-2007	LEE; Yong-Suk. et al.	
	112	US7263119	08-28-2007	HSU; Yungping. et al.	
	113	US7280625	10-09-2007	KETCHUM; John W. et al.	
	114	US7289570	10-30-2007	SCHMIDL; Timothy. et al.	
	115	US7298778	11-20-2007	VISOZ; Raphael. et al.	
	116	US7308035	12-11-2007	ROUQUETTE; Ste. et al.	
	117	US7317750	01-08-2008	SHATTIL; Steve J.	
	118	US7327800	02-05-2008	OPREA; Alexandru M. et al.	
	119	US7342912	03-11-2008	KERR; Adam B. et al.	
	120	US7386076	06-10-2008	ONGGOSANUSI; et al.	
	121	US7392014	06-24-2008	BAKER; et al.	
	122	US7403748	07-22-2008	KESKITALO; Ilkka. et al.	
	123	US7421039	09-02-2008	MALAENDER et al.	
	124	US7480278	01-20-2009	PEDERSEN; et al.	
/ST/	125	US7551580	06-23-2009	DU CREST; Gilles. et al.	

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				Filing Date	2003-10-23
				First Named Inventor	WALTON; J. Rodney. et al.
				Art Unit	2467
				Examiner Name	TSEGAYE, SABA
Sheet	7	of	14	Attorney Docket No: 020573	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
/ST/	126	US7573805	08-11-2009	ZHUANG; Xiangyang. et al.	
	127	US7606296	10-20-2009	HSU; Yungping. et al.	
	128	US20020018453	02-14-2002	YU, Yao; et al.	
	129	US20020044591	04-18-2002	LEE, Hyun-Woo; et al.	
	130	US20020098872	07-25-2002	JUDSON, Bruce A.	
	131	US20020181390	12-05-2002	MODY, Apurva N. et al.	
	132	US20030002450	01-02-2003	JALALI, Ahmad; et al.	
	133	US20030048856	03-13-2003	KETCHUM, John W. et al.	
	134	US20030119452	06-26-2003	KIM, Sung-Hoon; et al.	
	135	US20030139194	07-24-2003	ONGGOSANUSI, et al.	
	136	US20030153360	08-14-2003	BURKE, Joseph P. et al.	
	137	US20030157954	08-21-2003	MEDVEDEV, Irina; et al.	
	138	US20030235255	12-25-2003	KETCHUM, John W. et al.	
	139	US20040087324	05-06-2004	KETCHUM, John W. et al.	
	140	US20070177681	08-02-2007	CHOI; In-Kyeong et al.	
	141	US20010031621	10-18-2001	SCHMUTZ; Thomas R.	
	142	US20020018310	02-14-2002	HUNG; Tsan-Yao.	
	143	US20020041632	04-11-2002	SATO; Kazushi. et al.	
	144	US20020057659	05-16-2002	OZLUTURK; Fatih M. et al.	
	145	US20020085620	07-04-2002	MESECHER; David K.	
/ST/	146	US20020085641	07-04-2002	BAUM; Kevin L.	

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Sheet	8	of	14	Attorney Docket No: 020573	

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/ST/	147	US20020105928	08-08-2002	KAPOOR; Samir. et al.	
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	149	US20020196842	12-26-2002	ONGGOSANUSI; et al.	
	150	US20030078024	04-24-2003	MAGEE; et al.	
	151	US20030095197	05-22-2003	WHEELER; et al.	
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	159	US20040085939	05-06-2004	WALLACE; Mark S. et al.	
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	162	US20050047384	03-03-2005	WAX; Mati. et al.	
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/ST/	167	US20020147953	10-10-2002	CATREUX; et al.	

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Sheet	9	of	14	Attorney Docket No: 020573	

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/ST/	168	US20020122381	09-05-2002	WU, Shiquan; et al.	
/ST/	169	US20020080735	06-27-2002	HEATH, Robert W. et al.	

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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
/ST/	170	EP1185001A2	03-06-2002	NORTEL NETWORKS LTD [CA]		<input type="checkbox"/>
	171	EP1185048A2	03-06-2002	NORTEL NETWORKS LTD [CA]		<input type="checkbox"/>
	172	CN1308794	08-15-2001	ARRAYCOMM INC [US]		<input checked="" type="checkbox"/>
	173	JP2002176379	06-21-2002	JAPAN TELECOM CO LTD		<input checked="" type="checkbox"/>
	174	WO199809381A1	03-05-1998	UNIV LELAND STANFORD JUNIOR [US]		<input type="checkbox"/>
	175	WO199830047A1	07-09-1998	ARRAYCOMM INC [US]		<input type="checkbox"/>
	176	WO2002003557A1	01-10-2002	IOSPAN WIRELESS INC [US]		<input type="checkbox"/>
	177	WO2002069523A1	09-06-2002	MAGNOLIA BROADBAND INC [US]		<input type="checkbox"/>
	178	DE19951525A1	06-07-2001	SIEMENS AG [DE].		<input checked="" type="checkbox"/>
	179	EP0805568A1	11-05-1997	TRW INC [US].		<input type="checkbox"/>
/ST/	180	EP0951091A2	10-20-1999	LUCENT TECHNOLOGIES INC [US].		<input type="checkbox"/>

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Sheet	10	of	14	Attorney Docket No: 020573	

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/ST/	181	EP0991221A2	04-05-2000	LUCENT TECHNOLOGIES INC [US].		<input type="checkbox"/>
	182	EP1087545A1	03-28-2001	UNIV SINGAPORE [SG].		<input type="checkbox"/>
	183	EP1117197A2	07-18-2001	LUCENT TECHNOLOGIES INC [US].		<input type="checkbox"/>
	184	EP1175022A2	01-23-2002	SAMSUNG ELECTRONICS CO LTD [KR].		<input type="checkbox"/>
	185	EP1182799A2	02-27-2002	LUCENT TECHNOLOGIES INC [US].		<input type="checkbox"/>
	186	EP1207645A1	05-22-2002	LUCENT TECHNOLOGIES INC [US].		<input type="checkbox"/>
	187	EP1223702A1	07-17-2002	LUCENT TECHNOLOGIES INC [US].		<input type="checkbox"/>
	188	EP1241824A1	09-18-2002	ERICSSON TELEFON AB L M [SE].		<input type="checkbox"/>
	189	JP11069431A	03-09-1999	MITSUBISHI ELECTRIC CORP.		<input checked="" type="checkbox"/>
	190	JP11163823A	06-18-1999	VICTOR COMPANY OF JAPAN.		<input checked="" type="checkbox"/>
	191	JP2001044930A	02-16-2001	MATSUSHITA ELECTRIC IND CO LTD.		<input checked="" type="checkbox"/>
	192	JP2001237751A	08-31-2001	LUCENT TECHNOLOGIES INC.		<input checked="" type="checkbox"/>
	193	RU2015281C1	06-30-1994	KONDRASHOV BORIS M [RU].		<input checked="" type="checkbox"/>
	194	RU2152132C1	06-27-2000	J NII SVJAZI. et al.		<input checked="" type="checkbox"/>
/ST/	195	RU2158479C2	10-27-2000	AL KATEL N V [NL].		<input checked="" type="checkbox"/>

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/ST/	196	WO0011823A1	03-02-2000	RADIX TECHNOLOGIES INC [US]. et al.		<input type="checkbox"/>
	197	WO0036764A2	06-22-2000	NOKIA NETWORKS OY [FI]. et al.		<input type="checkbox"/>
	198	WO0180510A1	10-25-2001	AWARE INC [US].		<input type="checkbox"/>
	199	WO0182521A2	11-01-2001	QUALCOMM INC [US].		<input type="checkbox"/>
	200	WO0197400A2	12-20-2001	QUALCOMM INC [US].		<input type="checkbox"/>
	201	WO0201732A2	01-03-2002	NOKIA CORP [FI]. et al.		<input type="checkbox"/>
	202	WO02060138A2	08-01-2002	QUALCOMM INC [US].		<input type="checkbox"/>
	203	WO02062002A1	08-08-2002	QUALCOMM INC [US].		<input type="checkbox"/>
	204	WO02073869A1	09-19-2002	ERICSSON TELEFON AB L M [SE]. et al.		<input type="checkbox"/>
	205	WO0215433A1	02-21-2002	FUJITSU LTD [JP]. et al.		<input type="checkbox"/>
	206	WO03034646A2	04-24-2003	NORTEL NETWORKS LTD [CA].		<input type="checkbox"/>
	207	WO200171928	09-27-2001	QUALCOMM INC [US]		<input type="checkbox"/>
	208	WO9622662A1	07-25-1996	ARRAYCOMM INC [US].		<input type="checkbox"/>
	209	WO99016214A1	04-01-1999	COMMW SCIENT IND RES ORG [AU] ET AL.		<input type="checkbox"/>
	210	WO9957820A1	11-11-1999	ARRAYCOMM INC [US]		<input type="checkbox"/>
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Sheet	12	of	14	Attorney Docket No: 020573	

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/ST/	212	3GPP2 TIA/EIA/IS-2000-2-A, "Physical Layer Standard for cdma2000 Spread Spectrum Systems", (November 19, 1999).		
	213	B. HASSIBI, et al. "High-Rate Codes that are Linear in Space and Time," LUCENT Technologies, Murray Hill, NY (USA), Aug. 22, 2000, (pp. 1-54). .		
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	217	JONGREN et al., "Utilizing Quantized Feedback Information in Orthogonal Space-Time Block Coding," 2000 IEEE Global Telecommunications Conference, 2(4): 995-999, November 27, 2000.		
	218	KIESSLING, et al., "Short-Term and Long Term Diagonalization of Correlated MIMO Channels with Adaptive Modulation," IEEE Conference, vol. 2, (2002-09-15), pgs. 593-597.		
	219	L. DENEIRE, et al. "A LOW COMPLEXITY ML CHANNEL ESTIMATOR FOR OFDM," PROC IEEE ICC JUNE 2001 pgs. 1461-1465.		
	220	LI LIHUA, et al., "A Practical Space-Frequency Block Coded OFDM Scheme for Fast Fading Broadband Channels" 13th IEEE International Symposium on Personal Indoor and Mobile Radio Communications. PIMRC 2002. 15-18, September, 2002, pages 212-216, vol. 1, XP002280831.		
	221	M.A. KOUSA, et al., "Multichannel adaptive system," IEE PROCEEDINGS-I, Vol. 140, No. 5, October 1993, rages 357-364.		
/ST/	222	MIYASHITA, et al., "High Data-Rate Transmission with Eigenbeam-Space Division Multiplexing (E-SDM) in a MIMO Channel," VTC 2002-Fall. 2002 IEEE 56th. Vehicular Technology Conference Proceedings. Vancouver, Canada, Sept. 24-28,2002, IEEE		

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				Application Number	10/693,532
				Filing Date	2003-10-23
				First Named Inventor	WALTON; J. Rodney. et al.
				Art Unit	2467
				Examiner Name	TSEGAYE, SABA
Sheet	13	of	14	Attorney Docket No: 020573	

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2	
/ST/		Vehicular Technology.		
	223	P.W. WOLNIANSKY, et al. "V-BLAST: An Architecture for Realizing Very High Data Rates Over the Rich-Scattering Wireless Channel," LUCENT Technologies, Holmdel, NJ..		
	224	S. M. ALAMOUTI "A Simple Transmit Diversity Technique for Wireless Communications" IEEE Journal on Select Areas in Communications, October 1998, vol. 16, no. 8, pp. 1451-1458.		
	225	YOSHIKI, T., et al., "A Study on Subcarrier Adaptive Demodulation System using Multilevel Transmission Power Control for OFDM/FDD System," The Institute of Electronics, Information and Communications Engineers general meeting, lecture collection, Japan, March 7, 2000, Communication 1, page 400.		
	226	DAE-KO Hong, Young-Jo Lee, Daesik Hong, and Chang-Eon Kang. "Robust frequency offset estimation for pilot symbol assisted packet CDMA with MIMO antenna systems." Communications Letters. IEEE. June 2002.		
/ST/	227	S.W. WALES, A MIMO technique within the UTRA TDD standard 06/22/2005.		

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